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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/189,099	11/09/98	RITZEN	B 34648-415

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EXAMINER	
WOLDETATIOS,Y	
ART UNIT	**PAPER NUMBER**
2749	7

DATE MAILED: 09/12/00

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.	Applicant(s)
09/189,099	Ritzen et al.
Examiner	**Group Art Unit**
Yemane Woldetatios	2749

☐ Responsive to communication(s) filed on _____.

☐ This action is **FINAL.**

☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

☒ Claim(s) 1-27 is/are pending in the application.

Of the above, claim(s) _____ is/are withdrawn from consideration.

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) 1-27 is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been

☐ received.

☐ received in Application No. (Series Code/Serial Number) _____.

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____.

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☒ Notice of References Cited, PTO-892

☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). 4

☐ Interview Summary, PTO-413

☑ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless --
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371© of this title before the invention thereof by the applicant for patent.

2. Claims 1, 2, 4, 7-9,11, 18, 19, 21 and 27 are rejected under 35 U.S.C. 102(e) as being anticipated by Kanai (5898682).

Claim 1. Kanai teaches a method for improving speech quality in a cellular communications network, said method comprising the steps of:

selecting a cell from a plurality of cells forming the cellular communications network (col. 3 lines 55-65);

evaluating a first plurality of mobile reports (col. 5 line 62 to col. 6 line 16);

determining, in response to evaluating the first plurality of mobile reports, a speech quality value within a portion of the cell (col. 6 lines 64 to col. 7 line 6); and

decreasing the portion of the cell when a lower threshold exceeds the speech quality value; or increasing the portion of the cell when the speech quality value exceeds an upper threshold (col. 8 lines 5-26).

Claim 2. Kanai teaches the method of Claim 1, wherein said step of decreasing the portion of the cell further includes adjusting at least one border offset parameter to reduce a size of the portion of the cell (col. 8 lines 27-41).

Claim 4. Kanai teaches the method of Claim 1, wherein said step of increasing the portion of the cell further includes adjusting at least one border offset parameter to increase a size of the portion of the cell (col. 8 lines 21-26).

Claim 7. Kanai teaches the method of Claim 1, further comprising the steps of:

determining an interfering cell from the plurality of cells, said interfering cell causes interference within said cell, which is inherent in the system;

evaluating a second plurality of mobile reports; and decreasing a portion of the interfering cell to improve the speech quality value in the cell (col. 10 lines 21-41).

Claim 8. Kanai teaches the method of Claim 7, wherein said step of decreasing a portion of the interfering cell further includes adjusting at least one border offset parameter to reduce a size of the portion of the interfering cell, said portion of the interfering cell includes a cell border area or a section of the cell border area (col. 10 line 65 to col. 11 line 7).

Claim 9. Kanai teaches the method of Claim 8, wherein said step of adjusting at least one border offset parameter further includes determining a strongest neighbor cell adjacent to the section of the interfering cell to be reduced in size, which is inherent in the system.

Claim 11. Kanai teaches the method of Claim 1, further comprising the steps of:

determining an interfering cell from the plurality of cells, said interfering cell causes interference within said cell; and allocating a channel during a call setup or handover on a Broadcast Control Channel frequency used within the interfering cell to improve the speech quality value in the cell, which is inherent in the system.

Claim 18.Kanai teaches a cellular communications network comprising:

a cell; and a first transceiver station located within the cell (col. 3 lines 43-55);

a first plurality of mobile terminals located in a portion of said cell (col. 5 lines 23-45), said portion includes a cell border area or a section of the cell border area (Fig. 4); and a controller for receiving a first plurality of mobile reports, said controller further including: means for determining an average speech quality value of the portion of the cell in response to receiving the first plurality of mobile reports (Fig. 3); and means for decreasing the portion of the cell when a lower threshold exceeds the average speech quality value; or means for increasing the portion of the cell when the average speech quality value exceeds an upper threshold (col. 8 lines 5-26).

Claims 19 and 21. Kanai teaches the cellular communications network of Claim 18, wherein said means for decreasing the portion of the cell further includes means for adjusting at least one border offset parameter to reduce a size of the portion of the cell (col. 8 lines 5-26).

Claim 27. Kanai teaches the cellular communications network of Claim 18, further comprising an interfering cell that causes interference within said cell, which is inherent in the system, and said controller further includes means for allocating a channel during a call setup or

handover on a Broadcast Control Channel frequency used within the interfering cell to improve the average speech quality value in the cell (col. 5 lines 37-45).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 3, 5, 6, 10, 12-17, 20 and 22-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kanai in view of Ericsson (5884178).

Claim 3. Kanai fails to teach the method of Claim 1, wherein said step of decreasing the portion of the cell further includes adjusting a hierarchical cell structure threshold value of the cell to increase handovers of ongoing calls to another cell in a different layer of the cellular communications network. However, Ericsson teaches hierarchical cell structure (col. 2 lines 14-32). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Kanai's teaching by Ericsson's in order to enhance system capacity.

Claim 5. Kanai does not teach the method of Claim 1, wherein said step of increasing the portion of the cell further includes adjusting a hierarchical cell structure threshold value of the cell to decrease handovers of ongoing calls to another cell in a different layer of the cellular communications network. However, Ericsson teaches hierarchical cell structure (col. 2 lines 14-

32). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Kanai's teaching by Ericsson's in order to enhance system capacity and reduce handovers.

Claim 6. Kanai does not mention the method of Claim 1, wherein said portion of the cell further includes a cell border area or a section of the cell border area. However, Ericsson teaches cell border area (col. 1 lines 12-22). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Kanai's teaching by Ericsson's in order to enhance system capacity and reduce handovers.

Claim 10. Kanai fails to teach the method of Claim 7, wherein said step of decreasing a portion of the interfering cell further includes adjusting a hierarchical cell structure threshold value of the interfering cell to increase handovers of ongoing calls to another cell in a different layer of the cellular communications network, said portion of the interfering cell includes a cell border area or a section of the cell border area. However, Ericsson teaches hierarchical cell structure (col.2 lines 16-32) and interfering cell border area (col. 1 lines 12-22). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Kanai's teaching by Ericsson's in order to enhance system capacity.

Claim 12. Kanai teaches a method for improving speech quality in a cellular communications network, said method comprising the steps of:

selecting a cell from a plurality of cells forming the cellular communications network (col. 3 lines 55-65);

determining, in response to receiving first plurality of mobile reports, an average speech quality value of the portion of the cell (col. 6 line 64 to col. 7 line 6);

dynamically changing the portion of the cell by decreasing the portion when a lower threshold exceeds the average speech quality value, and increasing the portion when the average speech quality value exceeds an upper threshold (col. 8 lines 5-26);

determining an interfering cell from the plurality of cells, said interfering cell causes interference within said cell, which is inherent in the system;

receiving a first plurality of mobile reports from a first transceiver located in the cell and from a corresponding number of first mobile terminals located in a portion of the cell. Kanai fails to teach said portion of the cell including a cell border area or a section of the cell border area. However, Ericsson teaches cell border area. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Kanai's teaching by Ericsson's in order to enhance system capacity ;

Kanai teaches receiving a second plurality of mobile reports from a second transceiver located in the interfering cell and from a corresponding number of second mobile terminals located in the interfering cell, which is inherent in the system. Kanai fails to teach decreasing a portion of the interfering cell to improve the average speech quality value in the cell, said portion of the interfering cell including a cell border area or a section of the cell border area. However, Ericsson teaches a cell border area (col. 1 lines 12-22).Therefore, it would have been obvious to

one of ordinary skill in the art at the time the invention was made to modify Kanai's teaching by Ericsson's in order to enhance system capacity .

Claims 13 and 14. Kanai teaches he method of Claim 12, wherein said step of decreasing the portion of the cell further includes adjusting at least one border offset parameter to reduce a size of the portion of the cell (col. 8 lines 5-26). Kanai fails to teach adjusting a hierarchical cell structure threshold value of the cell to increase handovers of ongoing calls to another cell in a different layer of the cellular communications network. However, Ericsson teaches hierarchical cell structure (col. 2 lines 16-32).Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Kanai's teaching by Ericsson's in order to enhance system capacity .

Claim 15. Kanai teaches the method of Claim 12, wherein each of the first plurality of mobile reports further includes a plurality of downlink signal strengths and a downlink speech quality value determined at one of the first plurality of mobile terminals, and an uplink signal strength and an uplink speech quality value determined at the first transceiver (Col. 5 lines 45-52).

Claim 16. Kanai teach the method of Claim 12, wherein said step of decreasing a portion of the interfering cell further includes adjusting at least one border offset parameter to reduce a size of the portion of the interfering cell, which is inherent in the system. Kanai fails to teach adjusting a hierarchical cell structure threshold value of the interfering cell to increase handovers of ongoing calls to another cell in the different layer of the cellular communications network. However, Ericsson teaches hierarchical cell structure (col. 2 lines 16-32).Therefore, it would have

been obvious to one of ordinary skill in the art at the time the invention was made to modify Kanai's teaching by Ericsson's in order to enhance system capacity .

Claim 17. Kanai teaches the method of Claim 16, wherein said step of adjusting at least one border offset parameter further includes determining a strongest neighbor cell adjacent to the section of the interfering cell to be reduced in size, which is inherent in the system.

Claims 20 and 22. Kanai does not teach the cellular communications network of Claim 18, wherein said means for decreasing the portion of the cell further includes means for adjusting a hierarchical cell structure threshold value of the cell to increase handovers of ongoing calls to another cell in a different layer of the cellular communications network. However, Ericsson teaches hierarchical cell structure (col. 2 lines 16-32).Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Kanai's teaching by Ericsson's in order to enhance system capacity .

Claim 23. Kanai teaches the cellular communications network of Claim 18, further comprising:

an interfering cell that causes interference within said cell, which is inherent in the system;

a second transceiver station located within the interfering cell, which is also inherent in the system;

a second plurality of mobile terminals located within the interfering cell, inherent in the system; and

said controller for receiving a second plurality of mobile reports, said controller further includes means for decreasing a portion of the interfering cell to improve the average speech quality value in the cell (col. Col. 8 lines 5-26). Kanai fails to teach said portion of the interfering cell includes a cell border area or a section of the cell border area. However, Ericsson teaches cell border area. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Kanai's teaching by Ericsson's in order to enhance system capacity .

Claim 24. Kanai teaches the cellular communications network of Claim 23, wherein said means for decreasing the portion of the interfering cell further includes means for adjusting at least one border offset parameter to reduce a size of the portion of the interfering cell (col. 8 lines 5-26).

Claim 25. Kanai teaches the cellular communications network of Claim 24, wherein said means for adjusting at least one border offset parameter further includes means for determining a strongest neighbor cell adjacent to the section of the interfering cell to be reduced in size, which is inherent in the system.

Claim 26. Kanai fails to teach the cellular communications network of Claim 23, wherein said means for decreasing the portion of the interfering cell further includes means for adjusting a hierarchical cell structure threshold value of the interfering cell to increase handovers of ongoing calls to another cell in a different layer of the cellular communications network. However, Ericsson teaches hierarchical cell structure (col. 2 lines 16-32).Therefore, it would have been

obvious to one of ordinary skill in the art at the time the invention was made to modify Kanai's teaching by Ericsson's in order to enhance system capacity .

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Brody et al. (4670899), Aalto et al. (6006093), Nikides (5793805) and Karlsson (5640677) teach method and system for improving signal quality in a cellular communication network.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yemane Woldetatios whose telephone number is (703) 308-9596. The examiner can normally be reached on Monday to Thursday from 8:00 am to 5:30 pm. The examiner can also be reached on every alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiners supervisor, Daniel Hunter, can be reached on (703) 308-6732. The fax phone number for the organization where the application or proceedings is assigned is (703) 308-6306 or (703) 308-6296.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-4700.

Yemane Woldetatios

9-7-00

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